



Unveiling the Dynamics of Gardening: Benefits, Drawbacks, and Challenges in Cultivating Plant Awareness

Existence of Gardening ambience in Urban Areas of Madurai City

Don't make plants rare, keep them with care

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ABSTRACT:

The research project aims to explore the significance of gardening in individual spaces, focusing on its potential benefits for humans, the environment, and society at large. The study seeks to uncover the positive aspects of gardening, including its impact on health, soil quality, and biodiversity, while also acknowledging the challenges associated with this activity.

The researcher anticipates discovering the manifold advantages of gardening, ranging from its positive effects on personal health to its contribution to soil enrichment and support for local bird populations. Benefits include stress reduction, fostering independence, instilling a sense of responsibility, and promoting sustainable practices by growing essential fruits and vegetables.

An analysis of potential drawbacks associated with gardening reveals concerns such as manpower requirements, exposure to ticks and insect bites, chemical exposure risks, the potential for injuries, and the cost of tools and supplies. The researcher notes that careful examination of plants before purchase, using fully composted yard waste, monitoring for pests, fall cleanup, proper application of fertilizer, timely pruning, and judicious watering can address these challenges effectively.

The researchers identify gardening as a key 5S (Sort, Set in order, Shine, Standardize, Sustain) activity within the study premises at Thiagarajar College, Madurai. This acknowledgment highlights the integral role of gardening in maintaining a systematic, organized, and efficient environment.

The research team expresses a shared sentiment of enjoyment associated with gardening, emphasizing the joy derived from nurturing plants and witnessing the beauty of blossoming flowers. Gardening is perceived as an activity that goes beyond its practical benefits, providing a source of personal fulfillment and satisfaction.

Recognizing the importance of gardening in educational institutions, the researchers underscore its role in developing environmental awareness among students. The study posits that gardening imparts practical skills and cultivates a deeper understanding of environmental sustainability, making it an invaluable educational tool in schools and colleges.

The research employs a comprehensive approach, gathering both primary and secondary data to provide a well-rounded understanding of the dynamics of gardening. This methodology ensures a thorough exploration of the subject, combining firsthand experiences with existing knowledge in the field.

In conclusion, the research endeavors to shed light on the holistic impact of gardening, from its numerous benefits to the challenges it poses. By examining the activity within the context of an educational institution, the study aims to contribute insights that may inform the integration of gardening into academic curricula, promoting a more sustainable and environmentally conscious approach to education.

Keywords: Gardening – horticulture - cultivation of plant - Benefit – Drawback – challenges – create awareness.

INTRODUCTION:

Gardening, a fundamental facet of horticulture, encompasses the deliberate cultivation of plants for various purposes. This intricate practice extends from the aesthetic allure of ornamental plants to the utilitarian growth of fruits, vegetables, herbs, and medicinal flora. The scope of gardening is expansive, ranging from expansive fruit orchards to meticulously landscaped boulevards and intimate residential back gardens, each reflecting a unique combination of shrubs, trees, and herbaceous plants.

Gardening at Different Scales: Gardening manifests in diverse scales, from large-scale fruit orchards to intricately designed boulevards featuring a variety of flora. Residential settings witness the artistry of gardening in the form of lawns, foundation plantings, and container gardens—whether indoors or outdoors. This dynamic practice may involve specialized cultivation or embrace a rich tapestry of mixed plantings, demanding active participation and labor-intensive care.

Indoor Gardening: The realm of indoor gardening revolves around the cultivation of houseplants within residences, conservatories, or greenhouses. This practice seamlessly integrates with heating or air conditioning systems, contributing to interior aesthetics while nurturing a connection with nature within the confines of built environments.

Native Plant Gardening: A conscientious approach to gardening involves the utilization of native plants, either to create wildlife habitats or to establish gardens harmoniously adapted to specific regions. Native plant gardening not only enhances environmental sustainability but also reduces water consumption, minimizes maintenance efforts, and lowers fertilization costs, all while amplifying local ecological interest.

Water Gardening: The specialized domain of water gardening is dedicated to the cultivation of plants suited for pools and ponds, including the unique considerations of bog gardens. These aquatic ecosystems demand specific conditions and considerations, adding a distinctive and visually appealing dimension to the practice of gardening.

Community Gardening: A social endeavor, community gardening involves collective cultivation of a designated land area by a group of individuals. Beyond providing access to fresh produce, herbs, flowers, and plants, community gardening fosters a sense of satisfaction in labor, contributes to neighborhood improvement, builds community bonds, and establishes a profound connection to the environment.

In conclusion, gardening emerges as a multifaceted discipline, embracing diverse scales, environments, and purposes. Whether indoors or outdoors, specializing in native flora or fostering communal bonds, gardening stands as a dynamic and enriching practice that harmonizes with nature and enhances the quality of life.

REVIEW OF LITERATURE:

Essays on Nature and Growing: The literature "In the Garden: Essays on Nature and Growing" (November 3, 2021) offers a collection of essays covering a broad spectrum of topics related to nature and growing. While featuring contributions from well-known writers like Penelope Fitzgerald and Jamaica Kincaid, the collection introduces readers to lesser-known voices, providing diverse perspectives on gardening.

Personal Narratives on Gardening: Clyde Wachsberger's journey into gardening, as depicted in "Of Leaf and Flower: Stories and Poems for Gardeners" (August 30, 2022), reflects a personal narrative. The literature recounts Wachsberger's transition into gardening and the longing to share this passion with others, providing insight into the personal and social dimensions of gardening.

Garden Communicators International: Garden Communicators International, formerly the Garden Writers Association (August 19, 2020), is presented as an organization comprising professional communicators in the green industry. This includes a diverse range of individuals such as authors, bloggers, photographers, landscape designers, and more. The Association for Garden Communicators plays a pivotal role in connecting professionals and fostering communication within the industry.

Biodiversity Heritage Library's Contribution: The Biodiversity Heritage Library (February 18, 2016) is acknowledged for its role in digitizing and providing open access to biodiversity literature. As a consortium of natural history and botanical libraries, the BHL contributes to the global "biodiversity commons" by making rare and historic books and journals accessible. This literature source serves as a valuable repository for research in the field.

Urban Home Gardens and Sustainable Livelihoods in the US: In a study conducted by Drescher, Holmer, and Languita (2006) in the United States, the focus is on urban home gardens and allotment gardens as means for sustainable livelihoods. The research highlights challenges posed by current land use planning, multi-storey housing, and land use competition, limiting both open spaces and areas suitable for gardening in urban centers. The study advocates for public advocacy and extension services to support home gardens in this context.

Research by Griffith (2002) from Seattle and Vancouver identifies a dynamic shift in the definition of community gardens, with diverse interpretations among individuals and organizations. The evolving nature of community gardens is underscored, emphasizing their pivotal role as a voluntary platform for sustainable and self-sufficient gardening, providing a vital avenue for community participation.

In summary, the literature reviewed spans community gardening, sustainable livelihoods, biodiversity preservation, professional communication in the green industry, and personal narratives on gardening. This comprehensive overview contributes to a nuanced understanding of the multifaceted aspects of gardening across different contexts and dimensions.

Problem Statement:

- Limited awareness regarding gardening persists among slum dwellers and the urban population within the specified area.
- Gender discrimination is prevalent in the initiation, maintenance, and management of gardening activities.

OBJECTIVES:

- Evaluate the current level of awareness regarding gardening among slum dwellers and the urban population.
- Contribute to and support community-based initiatives for sustainable economic development.
- Promote awareness and appreciation for the benefits of consuming fresh, healthy, and seasonal regional food.

METHODOLOGY:

This study adopts a descriptive research approach, meticulously detailing various analytical factors within the realm of gardening, including gender, age, place of residence, gardening purposes, and methodologies. The overarching objective of this research paper is to foster awareness regarding gardening, positioning it as an economic instrument capable of enhancing the well-being of families and the surrounding environment.

The primary data for this study was gathered from a sample of 89 respondents in Madurai District, utilizing the convenient random sampling method. Complementary to this, secondary data is employed to review existing gardens and methodologies.

To enhance data interpretation, the researcher employs diverse pictorial representations. Additionally, non-parametric analysis, specifically the Chi-Square Test, is applied to rigorously test hypotheses derived from the data, ensuring a robust analytical framework.

ANALYSIS AND INTERPRETATIONS:

1.The societal implementation of an equal opportunities policy has empowered females to engage in various notable activities on par with males, underscoring the significance of gender as a crucial aspect. Gender classification in this study is delineated into male and female. According to the analysis presented in Table 1, it is observed that 55 percent of the respondents identify as female, while the remaining 34 percent identify as male.

Result: The data indicates a higher representation of female respondents compared to their male counterparts.

2.The age of respondents plays a pivotal role in identifying influencing factors. Respondents are categorized into age groups ranging from 15 to 30. As per the analysis presented in Table 2, 42 percent fall into the 15-20 years category, while the next 47 percent fall into the 20-30 years category.

Result: The data indicates a higher involvement of individuals aged 20-30 in gardening.

3.Analyzing respondents' interest in gardening, Table 3 shows that 54 percent express interest, while the remaining 35 percent do not.

4.Residential area, primarily used for housing, reflects land use patterns, including agriculture and home gardening. Table 4 indicates that 35 percent of respondents reside in a big city, followed by 31 percent in a small city, and 23 percent in an urban area.

Result: The majority, 35 percent, reside in a big city.

5.Regarding whether gardening is perceived as a hobby or profession (Table 5), 56 percent view it as a hobby, 4 percent as both, and 3 percent as a profession.

6.Analyzing respondents' involvement in different types of gardening (Table 6), 3 percent engage in community gardens, 30 percent in indoor potted plants, 35 percent in outdoor potted plants, and 21 percent do not participate in any.

7.Examining the types of plants grown (Table 7), 45 percent cultivate flowers, 18 percent fruits and vegetables, 6 percent succulents or low-water plants, and 20 percent do not engage in gardening.

8.Regarding soil preferences (Table 8), 19 percent use clay soils, 27 percent sandy soils, 5 percent silt soils, 2 percent loam soils, and 36 percent have no specific knowledge.

9.Evaluating respondents' knowledge about gardening (Table 9), 59 percent consider their knowledge average, 24 percent have little to no knowledge, and 6 percent consider themselves experts.

10. Assessing respondents' interest and frequency in gardening activities (Table 10), 23 percent participate 2-3 times a week, 19 percent daily, 29 percent not at all, and 18 percent once a week.

11. Considering sunlight conditions (Table 11), 23 percent prefer full sun, 34 percent part shade, and 11 percent shade.

12. Examining the purpose of gardening to grow food (Table 13), 50 percent are not currently growing but would like to, 23 percent are already growing, and 16 percent have no interest.

13. Analyzing involvement in gardening clubs (Table 14), 45 percent are not currently involved but would like to be, 39 percent are not involved and have no interest, and 5 percent are currently involved.

14. Evaluating participation in awareness programs (Table 15), 65 percent have not participated, while 24 percent have.

15. Analyzing the organization of gardening programs (Table 16), 79 percent have not organized any programs, and 10 percent have.

16. Regarding support in gardening (Table 17), 53 percent receive support, and 36 percent do not.

Compare between genders and experience in gardening:

Null Hypothesis: There is NO gender discrimination among the men and women in implementing the gardening activities in their living area.

Chi-Square Value:

Particular	Yes	No	Total
Male	0.091	0.140	0.231
Female	0.056	0.088	0.144
Total	0.147	0.228	0.375

At a 95% confidence level with 1 degree of freedom, the calculated value is found to be less than the table value. Consequently, the null hypothesis is accepted. The conclusion drawn from this analysis is that there is no evidence of gender discrimination between men and women in the implementation of gardening activities.

Compare between gender and living place:

Null Hypothesis: There is NO discrimination between the genders and living place associated to gardening.

Chi-Square Value:

Particular	Big city	Small city	Urban	Total
Male	0.067	0.033	0.01	0.107
Female	0.074	0.012	0.028	0.114
Total	0.141	0.045	0.88	0.224

At a 95% confidence level with 2 degrees of freedom, the calculated value is found to be less than the table value. Therefore, the null hypothesis is accepted. The conclusion drawn from this analysis is that there is no discrimination between genders and living places associated with gardening.

Compare between gender and professional work in garden

Null hypothesis. There is no discrimination between the gender and professionally work to gardening

Chi-square valve:

particular	hobby	professional	both	None of these	total
Male	0.248	0.017	0.167	0.445	0.877
Female	0.167	0.022	0.1	0.264	0.553
Total	0.415	0.039	0.267	0.709	1.43

At a 95% confidence level with 1 degree of freedom, the calculated value is less than the table value. Consequently, the null hypothesis is accepted. It is concluded that there is no evidence of gender discrimination between genders in professionally working with gardening.

Key Findings from Gardening Research:**1. Physical Health Benefits:**

- Gardening serves as a valuable form of physical activity, contributing to improved cardiovascular health, muscle strength, and flexibility.

2. Mental Health Benefits:

- Engaging in gardening has been linked to a reduction in stress, anxiety, and depression, emphasizing its positive impact on mental well-being.

3. Community Connection:

- Gardening provides opportunities for individuals to connect with others and build a sense of community. It also serves as an effective tool for teaching children about responsibility, teamwork, and environmental awareness.

4. Environmental Health Impact:

- Gardening plays a role in enhancing environmental health by improving air quality, reducing water pollution, conserving natural resources, and creating habitats for wildlife.

Specific Research Findings:

5. A study published in the journal *Epidemiology and Community Health* revealed that individuals who engaged in gardening for at least 30 minutes per week had a 36% lower risk of death from all causes.

6. A study published in the journal *Preventive Medicine* found a significant association between gardening and a reduced risk of developing type 2 diabetes.

7. Research published in the journal *Hortscience* demonstrated that gardening is linked to improved cognitive function, including benefits for memory, attention, and focus.

8. Findings from the journal *Landscape and Urban Planning* suggested that gardening is associated with increased social interaction, highlighting its role in fostering community engagement.

These comprehensive findings underscore the multifaceted benefits of gardening, ranging from physical and mental health advantages to environmental and community impact. The research provides valuable insights into the positive outcomes associated with this rewarding activity.

Limitations of Data Collection in Research:

- Data collection, particularly through methods like surveys or experiments, can be expensive, posing a financial limitation on the research process.
- Conducting thorough research can be time-consuming, making it challenging to execute studies quickly and efficiently.
- Errors, such as measurement errors, sampling errors, and nonresponse errors, may arise during data collection, impacting the validity and reliability of research findings.
- The presence of bias, either stemming from the researcher's personal biases or the data collection method itself, can influence the objectivity of research outcomes.
- Data collection, especially when involving personal or sensitive information, may raise privacy concerns among participants.
- Data collection must adhere to ethical standards, ensuring the protection of participants' rights and welfare throughout the research process.
- Access to data, especially if it is sensitive or proprietary, may be restricted, limiting the scope of the research.
- Findings derived from research based on a limited or specific sample may not be easily generalizable to a broader population.
- Research findings based on a single study may lack replicability, especially if the study was not conducted rigorously or transparently.

These limitations highlight the various challenges and considerations associated with the process of data collection in research, underscoring the need for careful planning, ethical conduct, and awareness of potential biases and errors.

Way Forward:

- Consider expanding the sample size and diversifying participants to ensure results are more representative and applicable to a broader population.
- Maintain transparency in methods and data reporting to enhance the credibility and reproducibility of the research.
- Employ a combination of data collection methods to ensure a comprehensive understanding of the subject, using both quantitative and qualitative approaches.
- Ensure data collection from representative samples of the population to enhance the external validity of the research findings.
- Use appropriate statistical methods to analyze data, ensuring accuracy and reliability in drawing conclusions.
- Subject the research to peer review to receive feedback and validation from experts in the field, enhancing the robustness of the study.
- Consider utilizing longitudinal data to study changes over time, addressing limitations associated with cross-sectional data.
- Incorporate mixed methods research, combining both quantitative and qualitative data, to capture a more comprehensive understanding of the phenomenon.
- Embrace participatory research approaches to ensure that the research is relevant and meaningful to the individuals and communities it aims to serve.

Conclusion:

In summary, gardening research illuminates the profound impact of this seemingly simple activity. By fostering a connection with nature, gardening contributes to physical well-being, mental health, environmental sustainability, and community cohesion.

The awareness generated through gardening research highlights its numerous benefits, paving the way for strategies and interventions that cater to diverse populations and contexts. Continued research in this field holds the promise of uncovering innovative approaches to make the benefits of gardening accessible to all, ensuring a healthier, more connected, and sustainable future.

ANNEXURE

Table: 1 GENDER

GENDER	No.
FEMALE	55
MALE	34

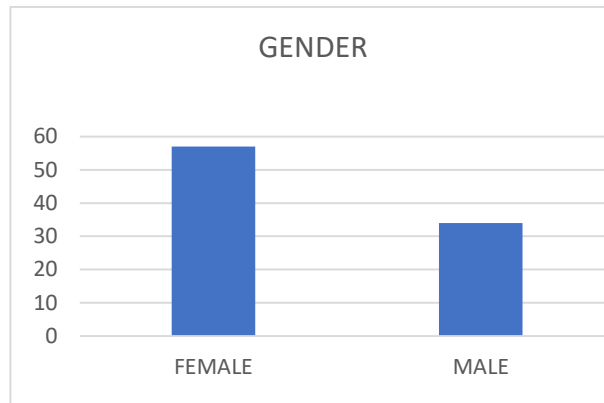


Table: 2 Age

AGE OF THE YEAR	No.
15- 20 YEAR	42
20-30 EAR	47

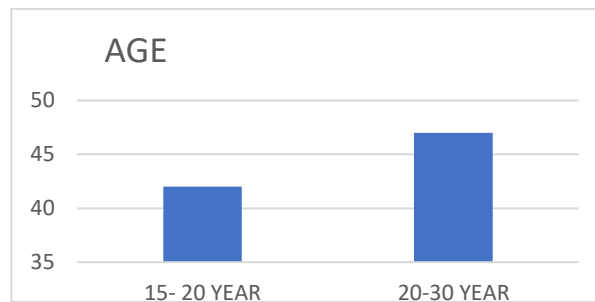


Table: 3 Experience in Gardening:

YES OR NO	COUNT
YES	54
NO	35

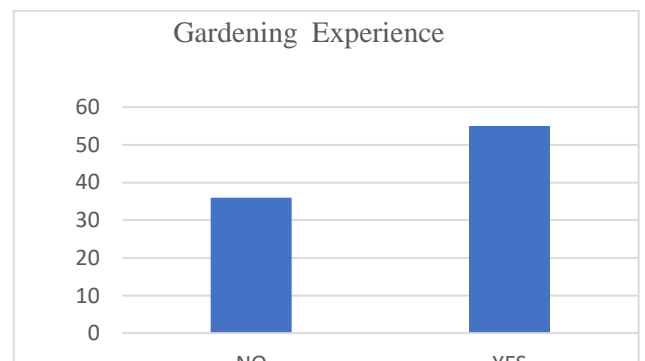


Table: 4 Residence:

Area	Count
A big city	35
A small city	31
Urban	23

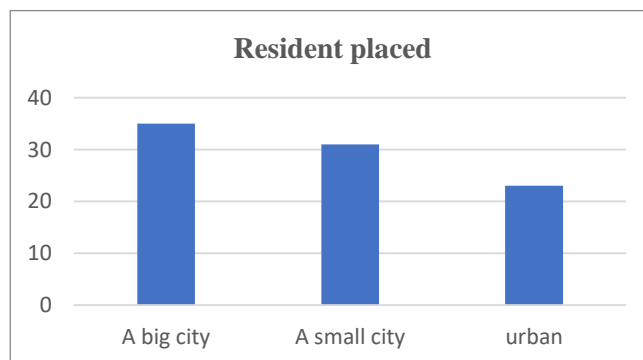
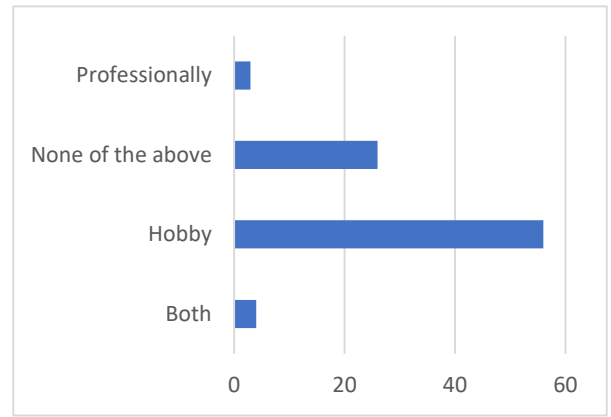


Table: 5 Garden professional, or a hobby or both:

Do you garden professionally as a hobby or both ?	No.
Both	4
Hobby	56
None of the above	26
Professionally	3

Table: 6



Gardenning method:

Method	No.
Community garden	3
Indoor potted plants	30
None of the above	21
Outdoor potted plants	35

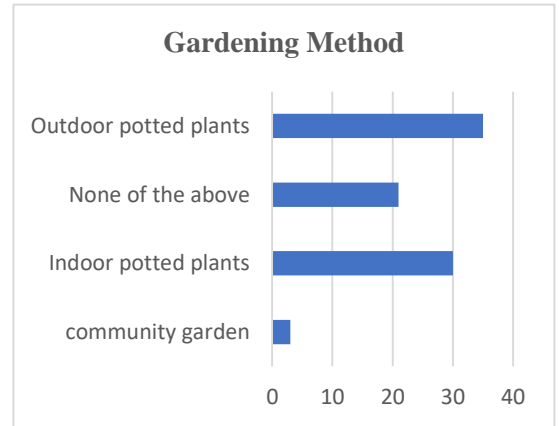


Table: 7 Plants existing:

Plants growing	No.
Flowers and decorative plants, tree	45
Fruits, vegetables or other edible plant	18
None of the above	20
succulent or low- water plants	6

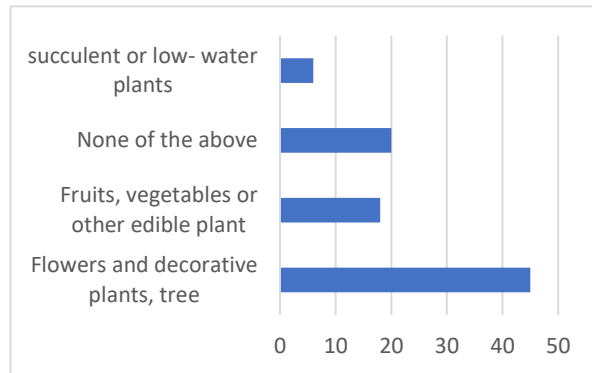


Table: 8 Soil Type used:

Soil Type	No.
Clay soils	19
Loams soils	2
No knowledge	36
Sandy soils	27
Silt soils	5

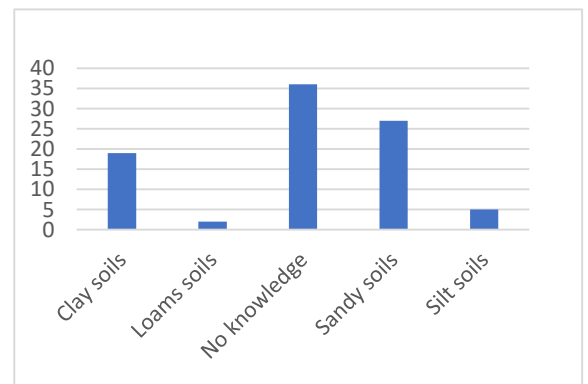


Table: 9 Gardening knowledge:

Level	No.
Average	59
Experts	6
Little to no knowledge	24

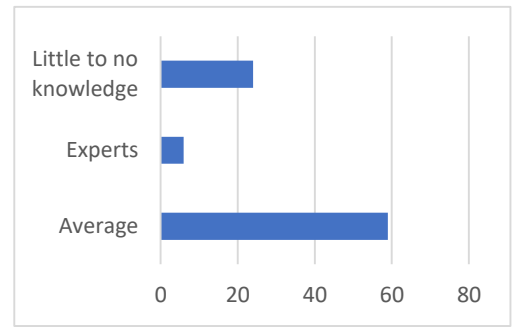
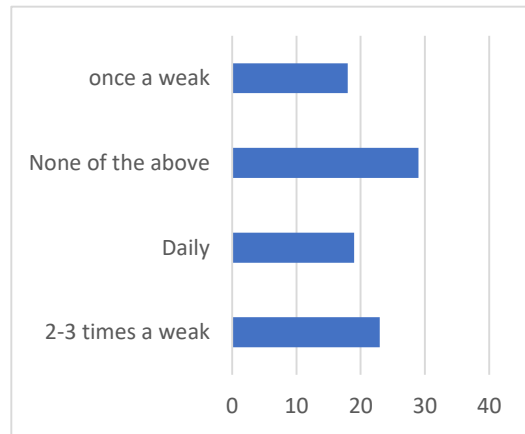


Table: 10 Frequency of Visits and Works in

Basis of visits	No.
2-3 times a weak	23
Daily	19
None of the above	29
once a weak	18



garden

Table: 11 Sun Condition:

Condition of Hotness	No.
Full sun	23
None of the above	21
Part shade	34
Shade	11

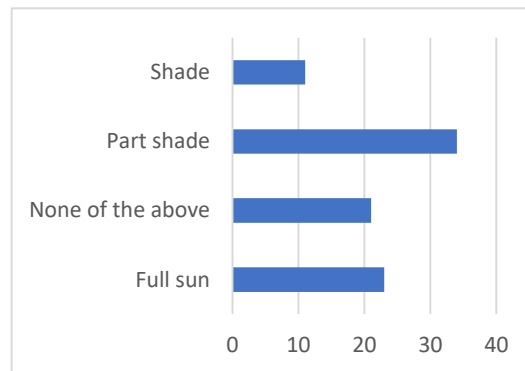


Table: 12 Involvements in Gardening Work:

Works Associated	No.
Grafting	5
Mowing	11
Mowing;Grafting	1
Mowing;Pruning	1

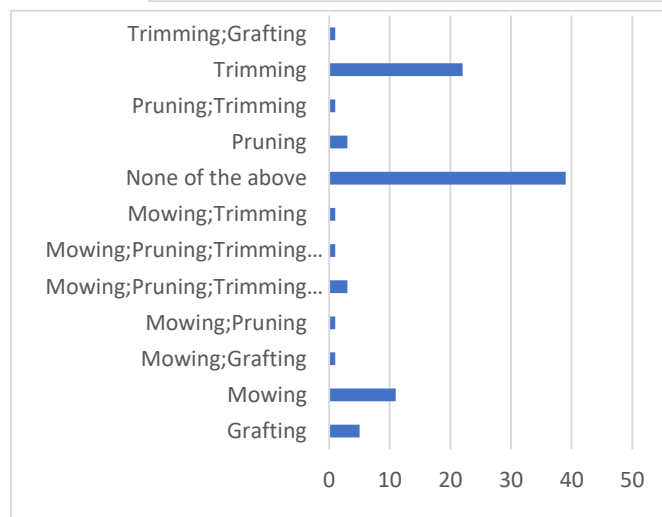


Table: 13 Preference to cultivate:

Do you grow your own food ?	No.
No, but I would like to	50
No, no interest	16
Yes	23

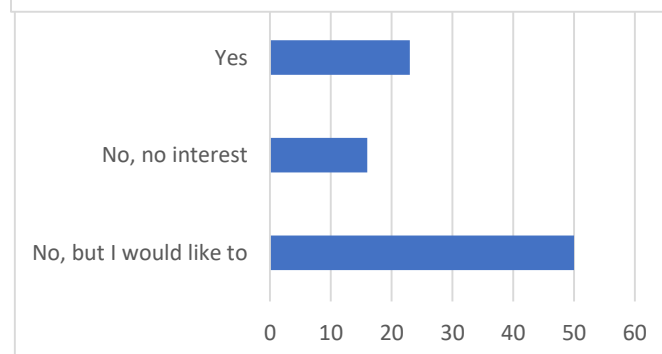


Table: 14 Member of Horticultural or gardening club or community:

Response	No.
No, but I would like to be	45
No, No interest	39
yes	5

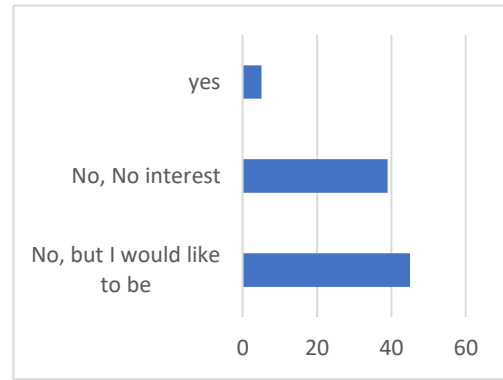


Table: 15 Awareness programme on gardening:

Participation	No.
No	65
Yes	24

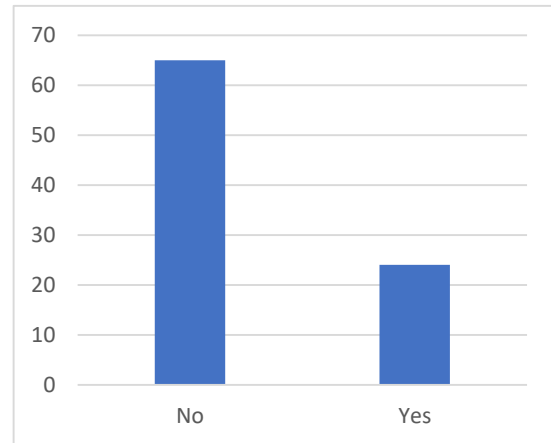


Table: 16 Conduct any programme for gardening:

Do you conduct any programme for gardening ?	No.
No	79
Yes	10

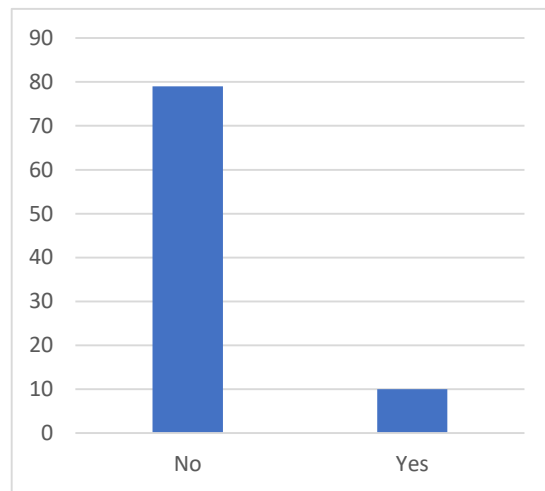


Table: 17 Support required:

Response	No.
No	36
Yes	53

